

CLAIMS

What is claimed is:

1. A refrigerator, comprising:
 - a body provided therein with a storage chamber;
 - an uplifted part projected from a rear portion of a top of the body so that a cooling room is formed to have a space extending above the storage chamber;
 - a machine room provided above a front portion of the top of the body and in front of the uplifted part;
 - a cooling unit removably disposed in the cooling room;
 - an evaporator and a cold air circulating fan provided in a cold air passage of the cooling unit; and
 - circulating passages formed in upper and rear portions of the storage chamber, respectively, to be connected to the cold air passage of the cooling unit.
2. The refrigerator as set forth in claim 1, wherein the cooling unit comprises:
 - a unit casing containing the evaporator;
 - an inlet formed in a front lower portion of the unit casing to be connected to the circulating passage formed in an upper portion of the storage chamber;
 - an exit formed in an rear upper portion of the unit casing; and
 - a discharge passage vertically formed in a rear side of the unit casing to connect the exit and the circulating passage formed in the rear portion of the storage chamber;wherein the cold air circulating fan is disposed in an upper portion of an interior of the unit casing.
3. The refrigerator as set forth in claim 2, further comprising a metallic heat conducting plate attached to an inside surface of the unit casing around the evaporator.
4. The refrigerator as set forth in claim 2, wherein the unit casing is made of insulating material.
5. The refrigerator as set forth in claim 4, wherein the insulating material comprises Styrofoam®.

6. The refrigerator as set forth in claim 2, wherein the unit casing is made by forming resin material and attaching insulating material to a surface of the formed resin material.

7. The refrigerator as set forth in claim 2, wherein the cooling unit further comprises:
a water tray disposed under the evaporator in the unit casing; and
a drain hole formed in a lower portion of the unit casing to drain water collected in the water tray.

8. The refrigerator as set forth in claim 2, wherein the cooling unit further comprises a fan casing attached to an upper portion of the unit casing to surround the cold air circulating fan and to support the cold air circulating fan to be rotated.

9. The refrigerator as set forth in claim 8, further comprising a motor provided outside the fan casing to drive the cold air circulating fan.

10. The refrigerator as set forth in claim 8, wherein the cold air circulating fan is a cross flow fan disposed above the evaporator along a length of the evaporator.

11. The refrigerator as set forth in claim 2, wherein the cold air circulating fan is a centrifugal fan that blows air in the unit casing toward the discharge passage.

12. The refrigerator as set forth in claim 2, wherein the cold air circulating fan is an axial flow fan that blows air in the unit casing toward the discharge passage.

13. The refrigerator as set forth in claim 1, wherein the cooling unit comprises:
a unit casing containing the evaporator;
a plurality of inlets formed in front lower portions of the unit casing to be connected to the circulating passage formed in the upper portion of the storage chamber,
an exit formed in a front upper portion of the unit casing; and
a discharge passage vertically formed in the front side of the unit casing, connecting the exit and the circulating passage formed in a rear portion of the storage chamber;
wherein the cold air circulating fan is disposed in an upper portion of an interior of the unit casing and near the exit.

14. The refrigerator as set forth in claim 13, further comprising a metallic heat conducting plate attached to an inside surface of the unit casing around the evaporator.

15. The refrigerator as set forth in claim 13, wherein the unit casing is made of insulating material.

16. The refrigerator as set forth in claim 13, wherein the unit casing is made by forming resin material and attaching insulating material to a surface of the formed resin material.

17. The refrigerator as set forth in claim 13, wherein the cooling unit further comprises:
a water tray disposed under the evaporator in the unit casing; and
a drain hole formed in a lower portion of the unit casing to drain water collected in the water tray.

18. The refrigerator as set forth in claim 13, wherein the cooling unit further comprises a fan casing attached to an upper portion of the unit casing to surround the cold air circulating fan and to support the cold air circulating fan to be rotated.

19. The refrigerator as set forth in claim 13, wherein the cold air circulating fan is a cross flow fan disposed above the evaporator along a length of the evaporator.

20. The refrigerator as set forth in claim 13, wherein the cold air circulating fan is a centrifugal fan that blows air in the unit casing toward the discharge passage.

21. The refrigerator as set forth in claim 13, wherein the cold air circulating fan is an axial flow fan that blows air in the unit casing toward the discharge passage.

22. The refrigerator as set forth in claim 1, further comprising:
an upper passage member spaced apart from a top of the storage chamber to form the circulating passage in the upper portion of the storage chamber; and
a rear passage member spaced apart from the rear side of the storage chamber to form the circulating passage in the rear portion of the storage chamber.

23. The refrigerator as set forth in claim 1, further comprising a cooling room casing disposed inside the uplifted part to define the cooling room, wherein the cooling room casing is provided on an outer surface thereof with a plurality of reinforcing ribs.

24. The refrigerator as set forth in claim 23, wherein the body of the refrigerator comprises:

an outer casing;

an inner casing; and

an insulating wall formed by filling a space between the outer and inner casing with an insulating material;

wherein the cooling room casing is provided inside the outer casing in the uplifted part, and outside the inner casing, and the reinforcing ribs prevent deformation of the cooling room casing from the filling of the insulating material.

25. The refrigerator as set forth in claim 1, further comprising:

a compressor;

a condenser; and

a cooling fan;

wherein the compressor, condenser, and cooling fan are provided in the machine room.

26. The refrigerator as set forth in claim 1, further comprising a machine room casing, wherein the machine room is defined by the machine room casing.

27. The refrigerator as set forth in claim 26, wherein the machine room casing comprises:

a box-shaped cover member attached to the body of the refrigerator; and

a door member selectively opening and closing a front side of the cover member.

28. The refrigerator as set forth in claim 27, wherein the door member is attached at both sides thereof to the cover member to be rotated.

29. The refrigerator as set forth in claim 27, wherein the door member is provided with a plurality of vent slits to circulate air.

30. The refrigerator as set forth in claim 1, wherein the cooling unit is a single integrated body comprising the evaporator, the cold air circulating fan, and the cold air passage.

31. The refrigerator as set forth in claim 1, further comprising a plurality of outlets formed in the rear portion of the storage chamber, wherein the outlets provide increased circulation of cold air.

32. A refrigerator, comprising:
a body provided therein with a storage chamber;
a machine room;
a cooling room; and
a cooling unit removably disposed in the cooling room;
wherein the machine room and cooling room are provided in upper projections from the top of the refrigerator body.

33. A refrigerator, comprising:
a cooling unit comprising:
an evaporator,
a cold air circulating fan, and
a cold air passage,
wherein the evaporator, the cold air circulating fan, and the cold air passage are integrated into a single body;
wherein the cooling unit is provided in an upper projection from the top of the refrigerator.

34. The refrigerator of claim 33, wherein the cooling unit is removably provided in the upper projection of the refrigerator.

35. A refrigerator, comprising:
a cooling room provided in a rear upper portion of the refrigerator;
a machine room provided in a front upper portion of the refrigerator; and
a plurality of outlets formed in a rear portion of the refrigerator;
wherein cold air from the cooling room is dispersedly discharged to the refrigerator through the outlets.